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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
BELLO, AGUSTIN	
ART UNIT	**PAPER NUMBER**
2633	23

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/633,005	WAY, DAVID G.	
	Examiner	Art Unit	
	Agustin Bello	2633	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 May 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *16,18-20 and 22-32* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *16, 18-20, and 22-32* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 5/26/04 has been entered.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 16, 18-20, and 22-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Handelman (U.S. Patent No. 6,574,018) in view of Scobey (U.S. Patent No. 5,583,683).

Regarding claims 16 and 24, Handelman teaches a method of operating an optical communication system, comprising: increasing a spectrum width of a first optical channel space (including non-converted channels) by at least an amount equal to a spectrum width of a second optical channel space (including the converted channels) to create a new optical channel space; wherein the new optical channel space has a spectrum width at least equal to a sum (e.g. via combination of non-converted and converted wavelengths) of the spectrum width of the first optical channel space and the spectrum width of the second optical channel space; and communicating a signal over the new optical channel space at a bit rate requiring the spectrum

width of the new optical channel space (column 3 lines 11-20, 31-38, column 13 lines 50-54, column 14 lines 1-7, 29-33, column 15 lines 1-8, 62-67, column 16 lines 16-18, 47-52). Although Handelman teaches a tunable filter (reference numeral 130 in Figure 2), Handelman differs from the claimed invention in that Handelman fails to specifically teach that the first optical channel space is defined by a passband of a first filter, the second optical channel space is defined by a passband of a second filter, or that the newly created channel space is defined by an increased passband of the first filter. However, bandpass filters comprising a plurality of filters each having their own passband is well known in the art. Scobey, in the same field of endeavor, teaches that such filters are well known in the art (Figure 4), and further that the first optical channel space is defined by a passband of a first filter (reference numeral 72 in Figure 4), the second optical channel space is defined by a passband of a second filter (reference numeral 86 in Figure 4). Moreover, Scobey teaches that each of the individual filters is tunable thus allowing desired wavelength passbands to be widened or narrowed (column 6 lines 30-40, 49-51, 60-63), thereby allowing a newly created channel space to be defined by an increased passband of the filter. One skilled in the art would clearly have recognized that the bandpass filer of Scobey (Figure 4) could have been used as the bandpass filter of Handelman (reference numeral 130 in Figure 2). One skilled in the art would have been motivated to use the filter of Scobey since it allows for tunable multiplexing and demultiplexing functionality. Therefore, in implementing the bandpass filter of Scobey as the bandpass filter of Handelman, it would have been obvious to one skilled in the art at the time the invention was made to that the first optical channel space (including non-converted channels of Handelman) is defined by a passband of a first filter (reference numeral 72 in Figure 4 of Scobey), the second optical channel space (including the

converted channels of Handelman) is defined by a passband of a second filter (reference numeral 86 in Figure 4 of Scobey), and that the newly created channel space is defined by an increased passband of the first filter (according to the ability to tune the passband of the filters of Scobey).

Regarding claims 18, 25, and 31 the combination of Handelman and Scobey teaches the method of Claim 16, further comprising deactivating a transponder associated with the first or second optical channel space (column 17 lines 48-53 of Handelman).

Regarding claims 19 and 26, Handelman teaches a fiber optic communication system, comprising: a first optical channel space having a first spectrum width; a second optical channel space adjacent to the first optical channel space, the second optical channel space having a second spectrum width; a tunable filter operable to increase the second spectrum width of the second optical channel space by at least an amount equal to the first spectrum width to create a new optical channel space having a third spectrum width, the new optical channel space operable to carry a signal at a bit rate requiring the third spectrum width (column 21 lines 55-61, column 22 lines 4-36, column 25 lines 41-57, column 26 lines 6-13, 22-24). Although Handelman teaches a tunable filter (reference numeral 130 in Figure 2), Handelman differs from the claimed invention in that Handelman fails to specifically teach that the first optical channel space is defined by a passband of a first filter, the second optical channel space is defined by a passband of a second filter, or that the newly created channel space is defined by an increased passband of the second filter. However, bandpass filters comprising a plurality of filters each having their own passband is well known in the art. Scobey, in the same field of endeavor, teaches that such filters are well known in the art (Figure 4), and further that the first optical channel space is defined by a passband of a first filter (reference numeral 72 in Figure 4), the second optical

channel space is defined by a passband of a second filter (reference numeral 86 in Figure 4). Moreover, Scobey teaches that each of the individual filters is tunable thus allowing desired wavelength passbands to be widened or narrowed (column 6 lines 30-40, 49-51, 60-63), thereby allowing a newly created channel space to be defined by an increased passband of the filter. One skilled in the art would clearly have recognized that the bandpass filer of Scobey (Figure 4) could have been used as the bandpass filter of Handelman (reference numeral 130 in Figure 2). One skilled in the art would have been motivated to use the filter of Scobey since it allows for tunable multiplexing and demultiplexing functionality. Therefore, in implementing the bandpass filter of Scobey as the bandpass filter of Handelman, it would have been obvious to one skilled in the art at the time the invention was made to that the first optical channel space (including non-converted channels of Handelman) is defined by a passband of a first filter (reference numeral 72 in Figure 4 of Scobey), the second optical channel space (including the converted channels of Handelman) is defined by a passband of a second filter (reference numeral 86 in Figure 4 of Scobey), and that the newly created channel space is defined by an increased passband of the first filter (according to the ability to tune the passband of the filters of Scobey).

Regarding claims 20 and 22, Handelman teaches a method of operating an optical communication system, comprising: dividing a first spectrum width (e.g. transfer of data from channel 2) of a first optical channel space to create a second optical channel space having a second spectrum width (e.g. channel 6) and a third optical channel (e.g. channel 7) space having a third spectrum width; wherein a sum of the second spectrum width and the third spectrum width is equal to (e.g. equalization of the channels) or less than the first spectrum width; communicating a signal over the second optical channel space at a bit rate requiring a spectrum

width equal to or less than the second spectrum width; and communicating a signal over the third optical channel space at a bit rate requiring a spectrum width equal to or less than the third spectrum width (column 21 lines 55-61, column 22 lines 4-36, column 25 lines 41-57, column 26 lines 6-13, 22-24). Although Handelman teaches a tunable filter (reference numeral 130 in Figure 2), Handelman differs from the claimed invention in that Handelman fails to specifically teach that the first optical channel space is defined by a passband of a first filter, the second optical channel space is defined by a decreased passband of a first filter and having a second spectrum width, or a third optical channel space defined by a passband of a second filter having a third spectrum width. However, bandpass filters comprising a plurality of filters each having their own passband is well known in the art. Scobey, in the same field of endeavor, teaches that such filters are well known in the art (Figure 4), and further that the first optical channel space is defined by a passband of a first filter (reference numeral 72 in Figure 4), and that a second channel space can be created and defined by a decreased passband of the first filter (e.g. in the demultiplexing mode of the device of Scobey a first multiplexed signal is sent to the first filter and divided into a smaller spectral width signal). Moreover, Scobey teaches that each of the individual filters is tunable thus allowing desired wavelength passbands to be widened or narrowed (column 6 lines 30-40, 49-51, 60-63), thereby allowing a third optical channel space defined by the passband of the second filter to have a third spectrum width. One skilled in the art would clearly have recognized that the bandpass filer of Scobey (Figure 4) could have been used as the bandpass filter of Handelman (reference numeral 130 in Figure 2). One skilled in the art would have been motivated to use the filter of Scobey since it allows for tunable multiplexing and demultiplexing functionality. Therefore, in implementing the bandpass filter of Scobey as

the bandpass filter of Handelman, it would have been obvious to one skilled in the art at the time the invention was made to that the first optical channel space (including non-converted channels of Handelman) is defined by a passband of a first filter (reference numeral 72 in Figure 4 of Scobey), the second optical channel space (including the converted channels of Handelman) is defined by a passband of a second filter (reference numeral 86 in Figure 4 of Scobey), and that the newly created channel space is defined by an increased passband of the first filter (according to the ability to tune the passband of the filters of Scobey).

Regarding claim 23, Handelman teaches a fiber optic communication system, comprising: a plurality of emitters (column 11 lines 44), each emitter operable to communicate a signal over a respective initial channel, wherein each initial channel has a respective initial spectrum width; a plurality of modulators (column 11 lines 45), each modulator coupled to at least one of the plurality of emitters, wherein each modulator is operable to modulate data onto a signal; and a passband filter (reference numeral 130 in Figure 2), the filter coupled to at least one of the plurality of emitters, wherein the filter is operable to vary the initial spectrum width (e.g. via tuning of the filter) of at least one of the initial channels to form at least one new channel that utilizes a channel spacing of at least one of the initial channels, wherein the at least one new channel has a respective new spectrum width. Handelman differs from the claimed invention in that Handelman fails to specifically teach a plurality of passband filters each coupled at least one of the plurality of emitters. However, bandpass filters comprising a plurality of filters each coupled to at least one of a plurality of emitters is well known in the art. Scobey, in the same field of endeavor, teaches that such filters are well known in the art (Figure 4). One skilled in the art would have been motivated to use the filter of Scobey since it allows for tunable

multiplexing and demultiplexing functionality. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to employ the tunable filter of Scobey as the bandpass filter of Handelman.

Regarding claims 27 and 29, Handelman differs from the claimed invention in that Handelman fails to specifically teach that the second channel space and the third channel space collectively comprise the first optical channel space. However, one skilled in the art would clearly have recognized that in the system of Handelman, it would have been possible to divide all of the information comprising the first channel space between the second and third channel spaces, thereby allowing the second and third channel spaces to collectively comprise the first channel space. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to have divided the first channel space between the second and third channel spaces so that the second and third channel spaces comprise the first channel space.

Regarding claims 28, 30, and 32 Handelman differs from the claimed invention in that Handelman fails to specifically teach activating a second and third transponder when the new channel space is created. However, Handelman teaches that communication can be established between remote transponders and a local controller to de-activate transponders for channel wavelengths which are not within the selected group of channel wavelengths. As such, one skilled in the art would clearly have recognized that it would have been possible activate a remote transponder when a need for an additional wavelength were required. Handelman suggests as much in the disclosure of the invention (column 18 lines 44-59). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to activate a

second and third transponder when a new channel is created by the same means that a channel is deactivated in the system of Handelman.

Response to Arguments

4. Applicant's arguments with respect to claims 16, 18-20, and 22-~~32~~ 30 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Agustin Bello whose telephone number is (703)308-1393. The examiner can normally be reached on M-F 8:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (703)305-4729. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Agustin Bello
Examiner
Art Unit 2633

AB

A. Bello